

REMARKS/ARGUMENTS

The present amendment is in response to the Office Action dated April 19, 2007. Applicant has also filed, herewith, a three month extension of time.

Claims 1-7 and 9-25 are active in the present application. Claims 1-7 and 9-20 have been currently amended, and new Claims 21-25 have been added. Claim 8 has been canceled. Support for the amended and new claims can be found throughout the specification and in the original claims. Support for amended Claim 1 can be found in original Claim 1, and on pages 6-8 and 16 of the specification. Support for amended Claims 2, 3 and 4 can be found on page 6 of the specification. Support for amended Claims 5 and 6 can be found on pages 6 and 7 of the specification. Support for amended Claim 9 can be found in original Claim 9, and on pages 8 and 16 of the specification. Support for amended Claims 7 and 10-17 can be found in the respective original claims. Support for amended Claims 18-20 can be found in the respective original claims, and on page 6-8 and 16 of the specification. Support for new Claims 21 and 22 can be found on pages 6 and 7, respectively, of the specification. Support for new Claim 23 can be found on pages 8 and 16 of the specification. Support for new Claim 24 can be found on page 17 of the specification. Support for new Claim 25 can be found on page 7 of the specification. No new matter is believed to have been introduced by the amended and new claims.

The specification has been amended, as shown above, to include a “Reference to Related Applications” section. No new matter is believed to have been introduced by the amendment to the specification.

Claim Rejection under 35 U.S.C. § 102(b) or § 103(a)

The Examiner rejected Claims 1, 2, 4-13 and 18-20 under 35 U.S.C. § 102(b), as anticipated by, or, in the alternative, under 35 U.S.C. § 103(a), as obvious over, U.S. Patent 6,107,430 to Dubois et al. (hereinafter Dubois). Applicants respectfully traverse for the following reasons.

Dubois does not teach or suggest an ethylene interpolymer having i) a number average molecular weight (Mn) from 1,000 to 9,000; ii) a Brookfield Viscosity (measured at 149°C (300°F)) from 500 to 9,000 cP; and where the interpolymer

comprises a high weight average molecular weight polymer component (M_{wH}) and a low weight average molecular weight polymer component (M_{wL}), and wherein the ratio M_{wH}/M_{wL} is from about 1.5 to about 20.

Dubois is directed to hot melt adhesives comprising a homogeneous linear ethylene polymer, and optionally a wax and tackifier (see abstract). Dubois discloses, in general, blends of interpolymers having preferred densities melt viscosities and/or melt indexes (see column 5, lines 10-28; column 13, lines 11-25; and claim 2). However, this reference does not teach or suggest an ethylene interpolymer comprising a high weight average molecular weight polymer component (M_{wH}) and a low weight average molecular weight polymer component (M_{wL}), and having the specific combination of number average molecular weight, Brookfield viscosity and M_{wH}/M_{wL} ratio, as claimed. The experimental adhesive formulations disclosed Dubois are formed by mixing separate polymer components together. These separate polymer components are formed in separate polymerization processes, which is in contrast to Applicants' claimed interpolymer, which is formed by one polymerization process, in one or more reactors. Although Dubois discloses, in general, a dual reactor process for the preparation of a polymer and wax (see column 7, lines 37-56; column 21, lines 21-51; column 24, lines 34-43; and abstract), this reference does not teach or suggest an ethylene interpolymer with the combination of features in pending Claim 1.

In addition, Dubois does not teach or suggest a process of making an ethylene interpolymer, comprising: i) contacting one or more olefinic monomers in the presence of at least two catalysts, one having a reactivity ratio r_1^H , and the other, a reactivity ratio r_1^L , and ii) effectuating the polymerization of the olefinic monomers in a reactor, to obtain an olefin polymer, and where each of r_1^H and r_1^L is from 1 to 200, and r_1^H/r_1^L , is from 0.03 to 30, and/or where one catalyst is capable of producing a first polymer with a high molecular weight (M_{wH}) from the monomers, under selected polymerization conditions, and the other catalyst is capable of producing a second polymer with, relative to the first polymer, a low molecular weight (M_{wL}), from the

same monomers, under substantially the same polymerization conditions, and where M_{wH}/M_{wL} is from 1.5 to 20. As discussed above, at best, Dubois discloses a dual reactor process for the preparation of a polymer and wax, and in which the polymer is prepared in one reactor, and the wax is prepared in another reactor. The reactors may be operated in series or in parallel (see column 24, lines 34-43; column 21, lines 21-51; and abstract). For example, Dubois discloses the polymerization of a polymer in one reactor, in the presence of a constrained geometry catalyst, and the polymerization of a wax in another reactor, in the presence of a constrained geometry catalyst; and the combination of the polymer solutions of each reactor to form a blend (see column 7, lines 37-56). However, Dubois does not teach or suggest contacting one or more olefinic monomers, in the presence of at least two catalysts, in combination with the additional features of pending Claim 9, as discussed above.

Therefore for at least the above reasons, Dubois does not teach or suggest the invention as now claimed. Applicants respectfully request the withdrawal of the rejection.

Claim Rejection under 35 U.S.C. § 103(a)

The Examiner rejected Claims 3 and 14-17 under 35 U.S.C. § 103(a), as unpatentable over Dubois, in view of U.S. Patent 6,825,147, to Klosin et al. (hereinafter Klosin), U.S. Patent 5,703,187, to Timmers (hereinafter Timmers), and U.S. Patent 6,150,297, to Campbell et al. (hereinafter Campbell). Applicants respectfully traverse for the following reasons.

Klosin is directed to titanium complexes comprising a 3-aryl-substituted cyclopentadienyl ring, substituted derivatives thereof, and associated polymerizations (for example, see abstract). Timmers is directed to constrained geometry catalysts and associated polymerizations (for example, see abstract). Campbell is directed to Group 4 metal complexes comprising a cyclopentaphenanthreneyl ligand, catalyst derivatives thereof, and associated polymerizations (for example, see abstract). None of these cited references overcome the deficiencies of Dubois, as discussed above. Therefore, for at least these reasons, the combination of Dubois with Klosin, Timmer and

Campbell does not teach or suggest the invention as claimed. Applicants respectfully request the withdrawal of this rejection.

Applicants respectfully submit that the present amendment is now in condition for allowance, and request early notice of such action.

If the Examiner has further questions, or believes further issues remain, the Examiner is invited to contact Applicants' undersigned representative.

Respectfully submitted,

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